

## **REMARKS**

### **I. The Pending Claims and the Amendments to the Claims**

Claims 1 and 3-25 remain pending. Claim 2 stands canceled. Claim 1 is the only pending independent claim. No amendments to the claims are being made herein.

### **II. The Rejection of Claims 1, 3-8, 11-17, and 26 as Obvious over FERGUSON et al '856 in view of WALTON et al**

In Paragraph 3 of the 29 August Office Action, Claims 1, 3-8, 11-17, and 26 are rejected under 35 USC 103(a) as unpatentable over FERGUSON et al '856 in view of U.S. Patent No. 5,562,958, to Walton et al ("WALTON et al"). The 29 August Office Action states that FERGUSON et al '856 discloses packaging films made into heat shrinkable bags having improved shrink, tear, barrier, and puncture resistance, and that the multilayer film of FERGUSON et al '856 has a layer comprising a blend of:

- (i) heterogeneous ethylene/alpha-olefin copolymer having a density of less than 0.915 g/cc and a composition distribution breadth index of less than 55%, which is a VLDPE; and
- (ii) an ethylene/alpha-olefin copolymer having a density greater than 0.915 g/cc, which is a LLDPE.

The Office Action goes on to state that the film therefore has a blend of VLDPE and LLDPE, and that the film further comprises an O<sub>2</sub>-barrier layer and an inside sealant layer, as well as an inner layer comprising ethylene/unsaturated ester copolymer (EVA). The Office Action then admits that FERGUSON et al '856 fails to teach the amounts of VLDPE and LLDPE relative to each other in the blend, but that in the absence of a showing of unexpected results, it would have been obvious to have

the amount of VLDPE exceed the amount of LLDPE in the blend. The Office Action goes on to state that since FERGUSON et al '856 teaches unexpected puncture resistance, oxygen barrier, and shrink results due to the presence of VLDPE, it would have been obvious to use a single layer film containing a VLDPE-LLDPE blend for use in a heat shrinkable, puncture resistant food-packaging film, to reduce production costs. The Office Action states that FERGUSON et al '856 teaches ball burst impact strength of 13-28 cm kg, which is 1.3 to 2.8 Joules, and which is directly related to desirable puncture resistance for the packaging of articles containing bones, and that the film has a total free shrink of at least 35% at 185°F.

The Office Action further states that WALTON et al teaches a biaxially-oriented heat-shrinkable puncture-resistant film for packaging food with bones, and therefore is analogous art to FERGUSON et al '856, and that since it is well known to use patches on bags to prevent package rupture as taught by WALTON et al, it would have been obvious to one of ordinary skill in the art to have provided a patch to the bag of FERGUSON et al '856 to give additional reinforcement, and that it would have been obvious to use the VLDPE-LLDPE blend of FERGUSON et al '856 in the patch, as using the identical material would have provided identical shrink properties as well as providing a thickened film in the critical areas where puncture is likely to occur.

In response, Applicants contend that Claims 1, 3-8, 11-17, and 26 are patentable over FERGUSON et al '856 in view of WALTON et al. Applicants contend that FERGUSON et al '856 in view of WALTON et al fails to make out a prima facie case of obviousness of any one or more of Applicants' Claims 1, 3-8, 11-17, and 26. Moreover, Applicants contend that even if a prima facie case of obviousness has been made out (which is not the case) Applicants' specification provides evidence of unexpected results of the patch bag of Claims 1, 3-8, 11-17, and 26.

Turning first to the lack of a prima facie case of obviousness, Applicants first point out that one of ordinary skill in the art would not take from WALTON et al a teaching of a particular article (i.e., patch bags), without also taking from WALTON et al the polymer disclosed as having the superior properties. The Office Action relies upon WALTON et al for the disclosure of patch bags, but ignores the clear teaching in WALTON et al of the superiority of the substantially linear ethylene/alpha-olefin interpolymer having uniform branching distribution for heat shrink films of improved shrink and toughness. Based on this and other reasons discussed in detail below, the Office Action arrives at the erroneous conclusion that Applicants' claims are obvious.

Applicants again acknowledge that FERGUSON et al '856 discloses the use of a blend of VLDPE and LLDPE in a layer of a multilayer film which is used to make a heat-shrinkable barrier bag. FERGUSON et al '856 makes no mention of patches on bags, such as the patch bag of Applicants' Claims 1, and 3-26.

Importantly, Applicants contend that when considered in its entirety, WALTON does NOT teach that it is necessary or even advisable to place a patch on a bag. That is, WALTON teaches by implication that it is not necessary to place a patch on a bag to improve the puncture resistance of the bag. WALTON et al teaches to make the heat-shrinkable bag from a heat shrinkable-film containing a substantially linear ethylene/alpha-olefin interpolymer having uniform branching distribution, so that the bag will be more impact resistant *and therefore will not require the presence of a patch*, as is apparent from the Abstract of WALTON et al, as follows:

Biaxially oriented, heat-shrinkable film-making process and film with improved toughness and extrusion processability are disclosed. The improved film comprises at least one layer of at least one substantially linear ethylene homopolymer or interpolymer, wherein the substantially linear ethylene polymer has an uniform branching distribution, and is also characterized as having essentially no linear polymer fraction, a single

DSC melting peak, a density greater than about 0.85 g/cc, and a simple bubble film 1% secant modulus below 195,000 kPa. The biaxially oriented film is characterized as having a simple bubble shrinkage value of from about 18% to about 85% at 135°C, and is useful in preparing heat-shrink bags for packaging food articles like poultry and fresh red meat.

This Abstract from WALTON et al makes it clear that WALTON et al is teaching one of skill in the art to use the disclosed substantially linear ethylene interpolymer to make a heat-shrinkable film in a bag suitable for packaging meat, not a patch which is to be used in combination with a bag.

This point is still more apparent from the paragraph spanning Col. 2 to Col 3 in WALTON et al, as follows:

Successful packaging or wrapping for all four methods, depends on the toughness and abuse or implosion resistance properties of the film materials themselves such that the packaged product's integrity is maintained during distribution, handling and/or display. However, toughness and abuse resistance are particularly important in food shrink wrapping and vacuum packaging which often times involves packaging of meat and other food cuts with deep cavities and sharp exposed bones as well as exposed edges that can puncture the film webs or fabricated bag during the heat-shrink or vacuuming-form operation or during subsequent package handling and distribution. To avoid premature puncturing, film producers resort to expensive practices to toughen the package such as using thicker films and bags, using an extra layer of film at critical contact points of the bag in a patch-like fashion as described by Ferguson in U.S. Pat. No. 4,755,403, or by using cross-ply or non-parallel layer constructions. Similarly, to "artificially" enhance the puncture and other abuse or implosion resistance characteristics of known film materials, food packagers routinely wrap or cap exposed bone edges with cloth, molded plastic articles or other materials. [WALTON et al. '958, at Col. 2 line 62 through Col. 3 line 16, emphasis added]

This passage from WALTON et al refers to the use of patches on bags as an "expensive practice" which film producers have "resorted to" in order to toughen the package in combination with the use of "thicker films and bags", which WALTON et al states are "artificial" ways of enhancing

puncture, abuse, and implosion resistance of film. The implication of this passage, when combined with the teaching that films made from the substantially linear ethylene interpolymers having uniform branching distribution as providing a film with increased puncture-resistance and toughness, is that such expensive practices as patches and thicker films are “artificial” and therefore are not necessary if problem is attacked at its source, that is by using an improved polymer such as the polymer disclosed in WALTON et al. As a result, one of ordinary skill in the art would take from WALTON et al that the solution to the bone puncture problem is to be found in the use of the substantially linear ethylene homopolymer or interpolymers to make a heat-shrinkable bag which does not have a patch adhered thereto, rather than attacking the problem artificially by adhering a patch to a bag.

It is important to note that in WALTON et al the only mention of patches on bags is the above paragraph from columns 3-4. This teaching is found *in a discussion of the prior art*, not the invention of WALTON et al. For the reasons set forth above, this teaching of patch bags in WALTON et al is, in effect, a teaching that patches should not be necessary on bags, i.e., it is actually a teaching away from the use of patches on bags, rather than a teaching toward using a patch on a bag. WALTON et al utterly fails to teach or suggest to one of ordinary skill in the art that the packaging film of the invention of WALTON et al should be used to make a patch for a bag.

Moreover, even if one of ordinary skill in the art were to read the above paragraph and decide to place a patch on a bag, the patch film would be made from the polymer of WALTON et al which provides improved toughness and shrink, not the film of FERGUSON et al ‘856. It should be noted that USSN 55,063, which issued as WALTON et al, was filed over 8 years after

the filing date of USSN 728,428, which issued as FERGUSON et al '856. WALTON et al discloses and claims a heat-shrinkable film made from a species of metallocene-catalyzed polymers unavailable at the filing date of FERGUSON et al '856. The metallocene catalyzed copolymers are disclosed as being interpolymers having uniform branching distribution, and when used to make a heat shrinkable film provide the film with superior shrink and toughness relative to the heterogeneous copolymers of FERGUSON et al.

More particularly, WALTON et al states that the substantially linear ethylene/alpha-olefin copolymer is capable of providing a shrink film with improved low temperature shrink performance over conventional Ziegler catalyzed copolymers. See WALTON et al at Col. 5 lines 13-20. These Ziegler catalyzed copolymers of ethylene and butene, hexene, or octene include the LLDPE and VLDPE of FERGUSON et al '856. In addition, WALTON et al states that the substantially linear ethylene/alpha-olefin copolymer also provides shrink films having improved toughness. See Abstract of WALTON et al. Thus, as the LLDPE and VLDPE of FERGUSON et al '856 are both heterogeneous copolymers, one of skill in the art, reading WALTON et al, would be taught to use the substantially linear ethylene/alpha-olefin copolymer to obtain a film having improved shrink and toughness properties, rather than a film containing the Ziegler catalyzed LLDPE and VLDPE of FERGUSON et al '856.

For all of these reasons, a prima facie case of obviousness cannot be made out based on FERGUSON et al '856 in view of WALTON et al. As a result, the §103 rejection of Claims 1, 3-8, 11-17, and 26 should be withdrawn because no prima facie case of obviousness of any one or more of these claims has been made out.

Even if a prima facie case of obviousness has been made out (which is not the case, for at least the reasons set forth above), Applicants again point to the evidence of unexpected results as set forth in Table VIII of Applicants' specification. Table VIII (see page 40 of Applicants' specification) shows that Film #4, a patch bag having a patch film made from blend of 75% VLDPE with 25% LLDPE (i.e., the invention), exhibited only a 25% failure rate in a Standard Rib Drop Test, compared with a 33% failure rate for Film #7, a patch film having a layer containing 50% homogeneous ethylene/alpha-olefin blended with 45.5% LLDPE No. 2 and 5.5% Additive Package No. 1, this film exhibiting a 43.8% failure rate in the same test. See results in Table VII of Applicants' specification. It should also be noted that the homogeneous copolymer used in Film #7 was an AFFINITY<sup>®</sup> ethylene/octene copolymer obtained from the Dow Chemical Company, i.e., a substantially linear homogeneous ethylene/alpha-olefin copolymer of the same type as described as being superior in both shrink and puncture resistance, according to WALTON et al. Thus, it is apparent that a blend of VLDPE and LLDPE produces better patch performance (i.e., lower failure rate) compared with an AFFINITY homogeneous copolymer blended with LLDPE. This result is surprising over the disclosure of WALTON et al, and contrary to the result one of ordinary skill in the art would expect from WALTON et al.

III. The Rejection of Claims 10, 18-24 under 35 USC 103(a) as Obvious over FERGUSON et al '856 in view of WALTON et al and further in view of FERGUSON et al '403

Applicants note that the Office Action relies upon FERGUSON '403 for the disclosure of an A/B/B/A collapsed self-welded seamless film tubing as providing a symmetrical film of Claims 18-24. Although Applicants admit that FERGUSON '403 does disclose a self welded structure similar

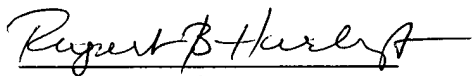
to the self welded symmetrical structure of Applicants' Claims 18-24, Applicants note that Claim 18-24 require the same blend recited in Claim 1, and Applicants further note that the Office Action relies upon FERGUSON et al '856 in view of WALTON et al for arriving at this blend of polymers in the patch film. Applicants have pointed out above why FERGUSON et al '856 in view of WALTON et al does not teach or suggest this blend of polymers in a patch film, and Applicants again call upon all of these arguments in response to the rejection of Claims 10 and 18-24.

Applicants also again point out that because FERGUSON '403 is directed particularly to a patch bag, that one of skill in the art would be led to use the LLDPE of FERGUSON '403 in the patch film, not the blend recited in Applicants' Claim 1, as discussed under heading III on Pages 6-10 of the Preliminary Amendment filed 29 May 2003. Applicants note that this rejection has been withdrawn in that it was not asserted in 29 August 2003 Office Action.

#### Conclusion

Applicants respectfully request reconsideration of the patentability of the claims with a view towards allowance, in view of the remarks set forth above.

Respectfully Submitted,



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